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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,699	02/25/2002	Vincenzo Arcella	108910-00053	8373

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EXAMINER

FORTUNA, ANA M

ART UNIT

PAPER NUMBER

1723

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/080,699	<b>Applicant(s)</b> ARCELLA ET AL.	
	<b>Examiner</b> Ana M Fortuna	<b>Art Unit</b> 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on 25 February 2002.

2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1-23 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☐ Claim(s) 1,2,5-9 and 11-13 is/are rejected.

7) ☐ Claim(s) 3,4,10,14,15 and 19-23 is/are objected to.

8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
       Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
       Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:  
       1. ☒ Certified copies of the priority documents have been received.  
       2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
       \* See the attached detailed Office action for a list of the certified copies not received.

13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
     a) ☐ The translation of the foreign language provisional application has been received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____
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## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 1 recites the broad recitation "water permeability higher than 1 l/(h.m<sup>2</sup>.atm)", and the claim also recites higher than 100 and higher than 500 l/(h.m<sup>2</sup>.atm) which is the narrower statement of the range/limitation. In claim 13 recites the broad limitation "5 %", and also recites the limitation "1%", which is the narrower limitation.

Claim 10 recites the broad limitation "m+2-10", and also recites "preferably 4-8".

Claim 19 recites the broad limitation "1-20 %", and also recited "4-20%", which is the narrower limitation. The same claims also recites temperature ranges of temperatures

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between room temperature to 100 degree C, narrower ranges of "15-40 degree C, 120-160, and 50 -200 degree C are also claimed within the same claim.

2. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 is unclear as to what water permeability or range of permeability is intended. In claims 5-7, the term "preferably", "more preferably" renders the claim indefinite as to what material is intended. In claim 8, the terms "preferably", and "for example" render the claim indefinite as to what materials or fluorinated polymers are intended; the term "for example" before "perfluoro-2-propoxy-propyl", does not limit the claim to the particular compound. The claim is further indefinite as to whether the listed compounds are alternatively selected for the membrane. The Markush groups of claims 7, 8, and 9 are incomplete, it should read "fluorinated monomers selected from the group consisting of a, b, c, **and** d. In claim 10, the term Claim 10 is unclear as to what value or range value for M is intended. Claim 11 is indefinite as to whether a mixture of the listed monomers, or alternative selection of one of the ionomers is intended. Claim 11 is an improper Markush claim. Claim 13 is unclear as to what degree of crystallinity is intended. Claim 19 is indefinite as to the hydrophilic groups present in the ionomers, the concentration of the ionomer, and the process temperature intended for the process. In claim 15, the term "the amorphous ones being different from the ionomer used in the membrane" is indefinite

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as to what is intended, since a membrane made from "ionomer being under amorphous form" is claimed in claim 1.

3. Claim 1 recites the limitation "the hydrophilic group" in line 8. There is insufficient antecedent basis for this limitation in the claim.

4. Claims 17-18 provides for the use of a membrane, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 17-18 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1, 2, 4, 5, 6, 7, 8, 9, 11, 12, 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mallouk et al (5,082,472)(hereinafter '472). Reference '472 discloses a hydrophilic membrane (water permeable)(column 10, lines 63-68, column 11, lines column 11, lines (1-8) made on a porous support (forming a composite membrane), and having an ionomer having hydrophilic groups claimed, in claim 6-9, 11, 12, 13, 16 (column 6, last paragraph, through column 7, lines 1-68, and column 8, lines 1-26), e.g. monomeric units deriving from TFE. The membrane pores size is disclosed in reference '472 as being equivalent to the support, since microporous support, coated with a very thin layer of the perfluoropolymer, with unfilled pores with the coated polymer, and having a pore size in the diameter range of 0.01 to 100 microns (in the support is disclosed (column 18, lines 65-68, column 19, lines 1-22, column 9, lines 31, column 10, lines 17-24), the effect on layer thickness in membrane transport rate is discussed in '472 (column 9, lines 58-66). The water permeability claimed in claim 1 is **not disclosed** in reference '472. It would have been obvious to one skilled in the art at the time the invention was made to have a membrane coated with an ionomer having hydrophilic groups, as disclosed in '472, on a porous support, expanded or bistretched PTPE, as also disclosed in '472 (column 8, lines 27-31, column 9, lines 13-24), an further adjust the membrane water flux, by adjusting the support pore size and film thickness, e.g. by selecting a large pore size membrane as support (microporous 0.02-10 microns for example), the pore size of the support can be maintained or reduced by controlling the coated material forming the composite; and by selecting a low range porous support, and a 2 mils or less coating thickness, one skilled in the art at the time

the invention was made can control the process to adapt the membrane for a desire water permeability , or for operation in reverse osmosis, ultrafiltration or microfiltration purposes.

***Allowable Subject Matter***

7. Claims 19-23 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.
8. Claims 3, 10, 14, 15, would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
9. Reasons for allowance: the combination of process steps in the process of making the membrane including the temperature conditions, for solvent evaporation, the percentage of solvent is not disclosed or suggested in the prior art of record. The membrane with the composition of claim 3 including more than 30 % of the ionomer., or the bi-olefin, or the mixture with additional amorphous polymers is not disclosed in the prior art of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana M Fortuna whose telephone number is (703) 308-3857. The examiner can normally be reached on 9:30-6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on (703) 308-0457. The fax phone

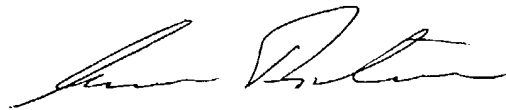
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number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Ana M Fortuna  
Primary Examiner  
Art Unit 1723

AMF  
December 14, 2003